



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,568	02/20/2004	Matthias Schussler	LBP-PT035 (20 152 kw)	7550
3624	7590	01/25/2006	EXAMINER	
VOLPE AND KOENIG, P.C. UNITED PLAZA, SUITE 1600 30 SOUTH 17TH STREET PHILADELPHIA, PA 19103			WERNER, JONATHAN S	
			ART UNIT	PAPER NUMBER
			3732	

DATE MAILED: 01/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/783,568	<b>Applicant(s)</b> SCHUSSLER ET AL.	
	<b>Examiner</b> Jonathan Werner	<b>Art Unit</b> 3732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 2/20/04 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5/17/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on 5/17/04 was filed before the mailing date of the first Office Action on the merits. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner. However, it should be known that the document number supplied by applicant on the submitted IDS (US 4,340,306) does not correctly match with patent date of said document (04/1999) or the name of the inventor (Hausler). Instead US patent #4,340,306 was patented on 6/20/82 by Balasubramanian.

### ***Drawings***

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the display device must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Art Unit: 3732

4. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 4, 7 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. As to claim 4, it is not clear what applicant means by the phrase "performing an additional measurement sot that two

measurements are performed.” As to claim 7, it is unclear what the defined “z-direction” is since there is no reference to a point of origin, and as such, it will be understood that the z-direction referred to is the same direction of the measurement beams of the radar device. As to claim 10, the “defined manner” in which the sample holder is shifted is not explained enough in either the claims or specifications and thus renders the claim indefinite.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 7 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Wenz (US 5,440,393). As to claim 7, Wenz discloses a device for optical measurement of a tooth comprising a radar device (column 12, line 4-7) and a sample holder (50, Figure 7) wherein the radar device is adjustable (col 3, ln 22-26); a camera (104); and a display device (col 2, ln 49-51). As to claim 10, as understood, the sample holder can be shifted sideways in a defined manner that is orthogonal to the z-direction that is defined in claim 7 (col 10, 60).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1 and 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu (5,338,198) in view of Wenz. As to claim 1, Wu discloses a method for optical measurement of a dental model of a tooth comprising aligning a beam of laser light device to the tooth model so that a direction of a measurement beam of the device coincides with an insertion or placement direction of the tooth thereby defining a z-distance (see Abstract; col 10, ln 10-12); performing the alignment with help from a real-time video image (col 6, ln 35-38); and measuring the tooth model with the device (col 6, ln 35-38). Wu, however, fails to show that the device is a radar device, whereas Wenz teaches a process for measuring the dimensions of a tooth model using a radar device (col 12, ln 4-9). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to use a radar device in order to measure the geometric-topographic configuration of the buccal cavity as taught by Wenz. As to claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wu in view of Wenz. Wu and Wenz disclose a device for optical measurement of a tooth as previously described but fails to show a light source of the radar device has a bandwidth between 3-40 nanometers. However, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to use a light source with a

bandwidth between 3-40 nm since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. As to claims 4 and 5, as understood, Wu discloses performing an additional measurement after the tooth model has shifted (col 8, ln 25-33); wherein the shift of the model is predetermined from the computer scanning operation and each scanning action is compared and its data correlated (col 8, ln 34-36).

8. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wu in view of Wenz further in view of Lee (US 6,413,085). Wu and Wenz disclose a device for optical measurement of a tooth as previously described, while Wu additionally shows a sample holder that is a tilting table (col 6, ln 56-59). However, Wu fails to show the sample holder is magnetic. Lee teaches a magnetic mounting platform for a dental cast (62). Therefore, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to make the sample holder comprise a magnetic tilting table in order to fully secure any metallic components at various positions, such as a guide piece as taught by Lee.

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wu in view of Wenz further in view of Takaishi (US 6,261,248). Wu and Wenz disclose a device for optical measurement of a tooth as previously described but fails to show that the camera objective can be exchangeable. Takaishi, however, discloses a tooth

dimension determining system that uses an exchangeable camera objective (5 or 6).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to include an exchangeable camera objective in order to switch between using an ordinary camera and a digital camera to obtain both an ordinary image and an electrical image that does not need to be separately scanned in an image scanner.

10. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wenz in view of Lee. Wenz discloses a device for optical measurement of a tooth as previously described but fails to show the sample holder comprises a magnetic tilting table. Lee, however, teaches a magnetic tilting mounting platform for a dental cast (62). Therefore, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to make the sample holder comprise a magnetic tilting table in order to fully secure any metallic components at various positions, such as a guide piece as taught by Lee.

11. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wenz. Wenz discloses a device for optical measurement of a tooth as previously described but fails to show a light source of the radar device has a bandwidth between 3-40 nanometers. However, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to use a light source with a bandwidth between 3-40 nm since it has been held that where the general conditions of a claim are disclosed in



Art Unit: 3732

the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

12. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wenz in view of Takaishi. Wenz discloses a device for optical measurement of a tooth as previously described but fails to show that the camera objective can be exchangeable. Takaishi, however, discloses a tooth dimension determining system that uses an exchangeable camera objective (5 or 6). Therefore, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to include an exchangeable camera objective in order to switch between using an ordinary camera and a digital camera to obtain both an ordinary image and an electrical image that does not need to be separately scanned in an image scanner.

### ***Conclusion***

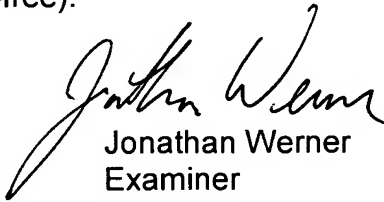
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please refer to included form PTO-892 for all additional pertinent prior art related to optically measuring cast models of a tooth.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Werner whose telephone number is (571) 272-2767. The examiner can normally be reached on Monday-Friday.

Art Unit: 3732


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Shaver can be reached on (571) 272-4720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jonathan Werner  
Examiner  
AU 3732

JSW  
1/12/06



MELBA N. BUMGARNER  
PRIMARY EXAMINER